



Risk Factors for Late Onset Hearing Loss: Maternal Illness

Left undetected, hearing loss in infants can negatively impact speech and language acquisition, academic achievement, and social and emotional development. If detected early, however, morbidity can be diminished and even eliminated through early intervention services. This fact sheet reviews maternal illnesses during pregnancy that are associated with infant hearing loss.

TOXOPLASMOSIS

Toxoplasmosis is a parasitic infection and afflicts approximately 1/1,000-10,000 babies. The severity of the infection depends on the time during pregnancy of the mother's exposure. Infected babies may have eye infections, enlarged spleen and liver, jaundice, and pneumonia which can lead to mental retardation, impaired eyesight, cerebral palsy, seizures, hearing loss, or learning disabilities.

SYPHILIS

Syphilis is a sexually transmitted infection caused by a bacterium that can cross the placenta and infect the fetus. Without immediate antibiotics, infants may develop brain damage, hearing loss, blindness, bone and tooth abnormalities and other problems.

RUBELLA

Although a mild illness, rubella can cause serious birth defects if the mother contracts the illness during pregnancy. About 25% of babies whose mothers contract rubella have one or more of the following birth defects: eye defects, hearing loss, mental retardation, and movement disorders.

CYTOMEGALOVIRUS (CMV)

CMV is the most common congenital infection in the United States. Studies show that roughly half of children with symptomatic congenital CMV infections develop hearing loss; asymptomatic infants are at a significant risk for sensorineural hearing loss that may develop over the first years of life.

HERPES

Herpes is a common sexually transmitted infection. The chance of it being passed to the baby is small, but the risk is highest when the mother contracted the virus for the first time late in pregnancy. The infection may spread to the baby's brain and internal organs causing brain damage, blindness, hearing loss, or even death. Herpes IS a risk factor if: the newborn was diagnosed with neonatal herpes, the mother had an active lesion during a vaginal delivery, or the mother had an active lesion during a cesarean delivery with a premature rupture of membranes. Herpes is NOT a risk factor if the mother had a cesarean delivery but there was no premature rupture of membranes or no active lesion was present at birth.

REFERENCES

1. Virginia Early Hearing Detection & Intervention Service (VEHDIS), <http://www.vahealth.org/hearing.htm> (accessed March 7, 2006)
2. Williamson WE, Demmler GJ, Percy AK, Catlin FI. Progressive hearing loss in Infants with asymptomatic congenital cytomegalovirus infection. *Pediatrics*. 1992;90:862-866.
3. Rivera, L.B. et al., Predictors of hearing loss in children with symptomatic congenital Cytomegalovirus infection. *Pediatrics*, 2002, 110, 762-767.
4. March of Dimes, Rubella Fact Sheet, http://www.marchofdimes.com/professionals/14332_1225.asp (accessed March 7, 2006)
5. March of Dimes, Sexually Transmitted Infections in Pregnancy Fact Sheet, http://www.marchofdimes.com/professionals/14332_1226.asp (accessed March 7, 2006)
6. March of Dimes, Toxoplasmosis Fact Sheet, http://www.marchofdimes.com/professionals/14332_1228.asp (accessed March 7, 2006)
7. March of Dimes, Sexually Transmitted Infections in Pregnancy Fact Sheet, http://www.marchofdimes.com/professionals/14332_1226.asp (accessed March 7, 2006)
8. Ely, JW et al., Evaluation of Pregnant Women Exposed to Respiratory Viruses. *American Family Physician*, 2000; 61, 10. <http://www.aafp.org/afp/20000515/3065.html> (accessed March 7, 2006)
9. Kountakis, SE. Risk factors for hearing loss in neonates: a prospective study. *American Journal of Otolaryngology*. 2002 May-Jun;23(3):133-7.
10. Greater Baltimore Medical Center Healthcare <http://www.gbmc.org/genetics/harveygenetics/prenataldx/PatientInformation/teratogens.cfm> (accessed March 7, 2006)

For more information about infant hearing loss, please visit our website: www.doh.wa.gov/ehddi.

Revised 3/30/2006

Contact us at:

Washington State Department of Health
Early Hearing Loss, Detection, Diagnosis, and Intervention (EHDDI) Program
1610 NE 150th Street, K17-9, Shoreline, WA 98155-0729
Phone: (206) 418-5613,
E-mail: ehddi2@doh.wa.gov

